Henrik Mouritsen

List of Publications by Year
in descending order

101 papers	8,031 citations	38742 50 h-index	51608 86 g-index
103 all docs	103 docs citations	103 times ranked	4392 citing authors

#	Article	IF	Citations
1	The Radical-Pair Mechanism of Magnetoreception. Annual Review of Biophysics, 2016, 45, 299-344.	10.0	492
2	Long-distance navigation and magnetoreception in migratory animals. Nature, 2018, 558, 50-59.	27.8	343
3	Migrating Songbirds Recalibrate Their Magnetic Compass Daily from Twilight Cues. Science, 2004, 304, 405-408.	12.6	337
4	Anthropogenic electromagnetic noise disrupts magnetic compass orientation in a migratory bird. Nature, 2014, 509, 353-356.	27.8	305
5	Cryptochromes and neuronal-activity markers colocalize in the retina of migratory birds during magnetic orientation. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 14294-14299.	7.1	257
6	Dense sampling of bird diversity increases power of comparative genomics. Nature, 2020, 587, 252-257.	27.8	251
7	Molecular Mapping of Movement-Associated Areas in the Avian Brain: A Motor Theory for Vocal Learning Origin. PLoS ONE, 2008, 3, e1768.	2.5	246
8	Visual but not trigeminal mediation of magnetic compass information in a migratory bird. Nature, 2009, 461, 1274-1277.	27.8	239
9	Wind Selection and Drift Compensation Optimize Migratory Pathways in a High-Flying Moth. Current Biology, 2008, 18, 514-518.	3.9	211
10	Global view of the functional molecular organization of the avian cerebrum: Mirror images and functional columns. Journal of Comparative Neurology, 2013, 521, 3614-3665.	1.6	207
11	Magnetoreception and its use in bird navigation. Current Opinion in Neurobiology, 2005, 15, 406-414.	4.2	183
12	Virtual migration in tethered flying monarch butterflies reveals their orientation mechanisms. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 10162-10166.	7.1	177
13	Cryptochromesâ€"a potential magnetoreceptor: what do we know and what do we want to know?. Journal of the Royal Society Interface, 2010, 7, S147-62.	3.4	174
14	Magnetic sensitivity of cryptochrome 4 from a migratory songbird. Nature, 2021, 594, 535-540.	27.8	171
15	A Visual Pathway Links Brain Structures Active during Magnetic Compass Orientation in Migratory Birds. PLoS ONE, 2007, 2, e937.	2.5	160
16	Chemical Magnetoreception: Bird Cryptochrome 1a Is Excited by Blue Light and Forms Long-Lived Radical-Pairs. PLoS ONE, 2007, 2, e1106.	2.5	152
17	The quantum needle of the avian magnetic compass. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 4634-4639.	7.1	148
18	Night-vision brain area in migratory songbirds. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 8339-8344.	7.1	143

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19	The magnetic retina: light-dependent and trigeminal magnetoreception in migratory birds. Current Opinion in Neurobiology, 2012, 22, 343-352.	4.2	140
20	Double-Cone Localization and Seasonal Expression Pattern Suggest a Role in Magnetoreception for European Robin Cryptochrome 4. Current Biology, 2018, 28, 211-223.e4.	3.9	134
21	Is There a â€œMigratory Syndromeâ€•Common to All Migrant Birds?. Annals of the New York Academy of Sciences, 2005, 1046, 282-293.	3.8	113
22	Avian Magnetoreception: Elaborate Iron Mineral Containing Dendrites in the Upper Beak Seem to Be a Common Feature of Birds. PLoS ONE, 2010, 5, e9231.	2.5	113
23	Magnetic field changes activate the trigeminal brainstem complex in a migratory bird. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 9394-9399.	7.1	112
24	Photoreceptor-based magnetoreception: optimal design of receptor molecules, cells, and neuronal processing. Journal of the Royal Society Interface, 2010, 7, S135-46.	3.4	110
25	Acuity of a Cryptochrome and Vision-Based Magnetoreception System inÂBirds. Biophysical Journal, 2010, 99, 40-49.	0.5	107
26	The Neural Basis of Long-Distance Navigation in Birds. Annual Review of Physiology, 2016, 78, 133-154.	13.1	107
27	Eurasian reed warblers compensate for virtual magnetic displacement. Current Biology, 2015, 25, R822-R824.	3.9	105
28	A Long-Distance Avian Migrant Compensates for Longitudinal Displacement during Spring Migration. Current Biology, 2008, 18, 188-190.	3.9	101
29	The Earthâ€™s Magnetic Field and Visual Landmarks Steer Migratory Flight Behavior in the Nocturnal Australian Bogong Moth. Current Biology, 2018, 28, 2160-2166.e5.	3.9	94
30	Chemical and structural analysis of a photoactive vertebrate cryptochrome from pigeon. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 19449-19457.	7.1	91
31	Weak Broadband Electromagnetic Fields are More Disruptive to Magnetic Compass Orientation in a Night-Migratory Songbird (Erithacus rubecula) than Strong Narrow-Band Fields. Frontiers in Behavioral Neuroscience, 2016, 10, 55.	2.0	83
32	The Australian Bogong Moth Agrotis infusa: A Long-Distance Nocturnal Navigator. Frontiers in Behavioral Neuroscience, 2016, 10, 77.	2.0	80
33	The neural mechanisms of long distance animal navigation. Current Opinion in Neurobiology, 2006, 16, 481-488.	4.2	73
34	Migratory Eurasian Reed Warblers Can Use Magnetic Declination to Solve the Longitude Problem. Current Biology, 2017, 27, 2647-2651.e2.	3.9	73
35	Migratory Birds Use Head Scans to Detect the Direction of the Earth's Magnetic Field. Current Biology, 2004, 14, 1946-1949.	3.9	71
36	Do monarch butterflies use polarized skylight for migratory orientation?. Journal of Experimental Biology, 2005, 208, 2399-2408.	1.7	68

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37	Physiological characterization of the compound eye in monarch butterflies with focus on the dorsal rim area. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2006, 192, 321-331.	1.6	68
38	Migratory Reed Warblers Need Intact Trigeminal Nerves to Correct for a 1,000 km Eastward Displacement. PLoS ONE, 2013, 8, e65847.	2.5	68
39	Redstarts,Phoenicurus phoenicurus, can orient in a true-zero magnetic field. Animal Behaviour, 1998, 55, 1311-1324.	1.9	67
40	Sun Compass Orientation Helps Coral Reef Fish Larvae Return to Their Natal Reef. PLoS ONE, 2013, 8, e66039.	2.5	67
41	Migrating songbirds tested in computer-controlled Emlen funnels use stellar cues for a time-independent compass. Journal of Experimental Biology, 2001, 204, 3855-3865.	1.7	67
42	Lateralized activation of Clusterâ€ƒN in the brains of migratory songbirds. European Journal of Neuroscience, 2007, 25, 1166-1173.	2.6	65
43	Robins have a magnetic compass in both eyes. Nature, 2011, 471, E1-E1.	27.8	64
44	An experimental displacement and over 50 years of tag-recoveries show that monarch butterflies are not true navigators. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 7348-7353.	7.1	64
45	Disruption of Magnetic Compass Orientation in Migratory Birds by Radiofrequency ElectromagneticAFields. Biophysical Journal, 2017, 113, 1475-1484.	0.5	59
46	Modelling migration: the clock-and-compass model can explain the distribution of ringing recoveries. Animal Behaviour, 1998, 56, 899-907.	1.9	58
47	Localisation of the Putative Magnetoreceptive Protein Cryptochrome 1b in the Retinae of Migratory Birds and Homing Pigeons. PLoS ONE, 2016, 11, e0147819.	2.5	58
48	A Mathematical Expectation Model for Bird Navigation based on the Clock-and-Compass Strategy. Journal of Theoretical Biology, 2000, 207, 283-291.	1.7	56
49	Waved albatrosses can navigate with strong magnets attached to their head. Journal of Experimental Biology, 2003, 206, 4155-4166.	1.7	53
50	Night-migratory garden warblers can orient with their magnetic compass using the left, the right or both eyes. Journal of the Royal Society Interface, 2010, 7, S227-33.	3.4	53
51	Spatiotemporal Orientation Strategies of Long-Distance Migrants. , 2003, , 493-513.		51
52	Nightâ€time neuronal activation of Cluster N in a dayâ€and nightâ€migrating songbird. European Journal of Neuroscience, 2010, 32, 619-624.	2.6	51
53	Migratory navigation in birds: new opportunities in an era of fast-developing tracking technology. Journal of Experimental Biology, 2011, 214, 3705-3712.	1.7	51
54	A magnetic compass that might help coral reef fish larvae return to their natal reef. Current Biology, 2016, 26, R1266-R1267.	3.9	51

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55	Natal imprinting to the Earthâ€™s magnetic field in a pelagic seabird. Current Biology, 2020, 30, 2869-2873.e2.	3.9	47
56	Search for the compass needles. Nature, 2012, 484, 320-321.	27.8	40
57	Magnetic field-driven induction of ZENK in the trigeminal system of pigeons (<i>Columba livia</i>). Journal of the Royal Society Interface, 2014, 11, 20140777.	3.4	40
58	Protein-protein interaction of the putative magnetoreceptor cryptochrome 4 expressed in the avian retina. Scientific Reports, 2020, 10, 7364.	3.3	38
59	Magnetic map navigation in a migratory songbird requires trigeminal input. Scientific Reports, 2018, 8, 11975.	3.3	36
60	A light-dependent magnetoreception mechanism insensitive to light intensity and polarization. Journal of the Royal Society Interface, 2017, 14, 20170405.	3.4	35
61	Navigation by extrapolation of geomagnetic cues in a migratory songbird. Current Biology, 2021, 31, 1563-1569.e4.	3.9	34
62	Geomagnetic information modulates nocturnal migratory restlessness but not fueling in a long distance migratory songbird. Journal of Avian Biology, 2017, 48, 75-82.	1.2	33
63	At-sea distribution of waved albatrosses and the GalÃ¡pagos Marine Reserve. Biological Conservation, 2003, 110, 367-373.	4.1	32
64	Migratory blackcaps tested in Emlen funnels can orient at 85 but not at 88 degrees magnetic inclination. Journal of Experimental Biology, 2015, 218, 206-11.	1.7	31
65	Cryptochrome magnetoreception: four tryptophans could be better than three. Journal of the Royal Society Interface, 2021, 18, 20210601.	3.4	31
66	Navigation in birds and other animals. Image and Vision Computing, 2001, 19, 713-731.	4.5	30
67	Cryptochrome 1a localisation in light- and dark-adapted retinae of several migratory and non-migratory bird species: no signs of light-dependent activation. Ethology Ecology and Evolution, 2021, 33, 248-272.	1.4	30
68	Thermal paper can replace typewriter correction paper in Emlen funnels. Journal of Ornithology, 2009, 150, 713-715.	1.1	29
69	Electromagnetic 0.1â€"100 kHz noise does not disrupt orientation in a night-migrating songbird implying a spin coherence lifetime of less than 10 Âµs. Journal of the Royal Society Interface, 2019, 16, 20190716.	3.4	29
70	Night-Migratory Songbirds Possess a Magnetic Compass in Both Eyes. PLoS ONE, 2012, 7, e43271.	2.5	28
71	Calcium-binding proteins label functional streams of the visual system in a songbird. Brain Research Bulletin, 2008, 75, 348-355.	3.0	27
72	A Double-Clock or Jetlag Mechanism is Unlikely to be Involved in Detection of Eastâ€"West Displacements in a Long-Distance Avian Migrant. Auk, 2010, 127, 773-780.	1.4	26

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73	Magnetic stop signs signal a European songbirdâ€™s arrival at the breeding site after migration. Science, 2022, 375, 446-449.	12.6	26
74	Migratory blackcaps can use their magnetic compass at 5 degrees inclination, but are completely random at 0 degrees inclination. Scientific Reports, 2016, 6, 33805.	3.3	25
75	Star compass learning: how long does it take?. Journal of Ornithology, 2014, 155, 225-234.	1.1	24
76	The Magnetic Senses. , 2013, , 427-443.		23
77	Magnetic activation in the brain of the migratory northern wheatear (Oenanthe oenanthe). Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2017, 203, 591-600.	1.6	23
78	A novel isoform of cryptochrome 4 (Cry4b) is expressed in the retina of a night-migratory songbird. Scientific Reports, 2020, 10, 15794.	3.3	21
79	Broadband 75â€"85ÂMHz radiofrequency fields disrupt magnetic compass orientation in night-migratory songbirds consistent with a flavin-based radical pair magnetoreceptor. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2022, 208, 97-106.	1.6	21
80	The magnetic map sense and its use in fine-tuning the migration programme of birds. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2017, 203, 491-497.	1.6	18
81	No evidence for the use of magnetic declination for migratory navigation in two songbird species. PLoS ONE, 2020, 15, e0232136.	2.5	18
82	Double Cones and the Diverse Connectivity of Photoreceptors and Bipolar Cells in an Avian Retina. Journal of Neuroscience, 2021, 41, 5015-5028.	3.6	18
83	A newly identified trigeminal brain pathway in a night-migratory bird could be dedicated to transmitting magnetic map information. Proceedings of the Royal Society B: Biological Sciences, 2020, 287, 20192788.	2.6	17
84	Lidocaine is a nocebo treatment for trigeminally mediated magnetic orientation in birds. Journal of the Royal Society Interface, 2018, 15, 20180124.	3.4	15
85	Magnetoreception in Birds and Its Use for Long-Distance Migrationâ˜—â˜—Because our knowledge of magnetoreception did not change dramatically over the last few months, there is significant text and content overlap between the present chapter and a chapter focusing on magnetoreception in all kinds of organisms and titled â€œThe Magnetic Senses,â€•which I recently wrote for the textbook Neurosciences: Mouritsen, H., 2013. The magnetic senses. In: Galizia, C.G., Lledo, P.M. (Eds), Neurosciencesâ€"From Molecule to Behavi. , 2015, , 113-133.		13
86	Perceptual Strategies of Pigeons to Detect a Rotational Centreâ€"A Hint for Star Compass Learning?. PLoS ONE, 2015, 10, e0119919.	2.5	12
87	Double cones in the avian retina form an oriented mosaic which might facilitate magnetoreception and/or polarized light sensing. Journal of the Royal Society Interface, 2022, 19, 20210877.	3.4	12
88	Localisation of cryptochrome 2 in the avian retina. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2021, 208, 69.	1.6	11
89	Computational Reconstruction and Analysis of Structural Models of Avian Cryptochrome 4. Journal of Physical Chemistry B, 2022, 126, 4623-4635.	2.6	11
90	Direct Interaction of Avian Cryptochrome 4 with a Cone Specific G-Protein. Cells, 2022, 11, 2043.	4.1	11

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91	Magnetoreception in birds and its use for long-distance migration. , 2022, , 233-256.		10
92	Weather significantly influences the migratory behaviour of night-migratory songbirds tested indoors in orientation cages. Journal of Ornithology, 2011, 152, 27-35.	1.1	9
93	Re-calibration of the magnetic compass in hand-raised European robins (Erithacus rubecula). Scientific Reports, 2015, 5, 14323.	3.3	9
94	An attempt to develop an operant conditioning paradigm to test for magnetic discrimination behavior in a migratory songbird. Journal of Ornithology, 2012, 153, 1165-1177.	1.1	8
95	A Guide for Using Flight Simulators to Study the Sensory Basis of Long-Distance Migration in Insects. Frontiers in Behavioral Neuroscience, 2021, 15, 678936.	2.0	7
96	Reply to Oberhauser et al.: The experimental evidence clearly shows that monarch butterflies are almost certainly not true navigators. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E3681-E3681.	7.1	5
97	A robust synthesis of 7,8-didemethyl-8-hydroxy-5-deazariboflavin. Beilstein Journal of Organic Chemistry, 2016, 12, 912-917.	2.2	5
98	Endless skies and open seasÂâ€" how birds and fish navigate. Neuroforum, 2021, 27, 127-139.	0.3	5
99	Distinguishing between coherent and incoherent signals in excitation-emission spectroscopy. Optics Express, 2021, 29, 24326.	3.4	3
100	In Search for the Avian Trigeminal Magnetic Sensor: Distribution of Peripheral and Central Terminals of Ophthalmic Sensory Neurons in the Night-Migratory Eurasian Blackcap (Sylvia atricapilla). Frontiers in Neuroanatomy, 2022, 16, 853401.	1.7	3
101	Magnetoreception and navigation in vertebrates from quantum mechanics to neuroscience and behaviour. Neuroforum, 2021, 27, 123-125.	0.3	0